

Appl. No. 10/662,029
Amdt. Dated February 27, 2007
Reply to Office Action of December 22, 2006

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REMARKS

Applicant has amended claims 1-8 without prejudice. The amendments find support in the drawings (e.g., Fig. 2) and specification of the originally filed application. Thus, no new matter is added part of this response.

Claim Objections

Claim 8 objected to because of the following informalities: With respect to claim 8 lines 11 and 12 fails to distinguish which amplifier "the amplifier" refers to. In response, Applicant has amended claim 8 to distinguish which amplifier "the amplifier" refers to and has, thus, successfully overcome the objection.

35 USC §102 Rejections

Claims 1, 2, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by AAPA (Applicant's admitted Prior Art).

In response to this rejection, Applicant has amended claims 1, 2, 7 and 8, and respectfully traverses the rejection and submits that the rejected claims are in condition for allowance in their current form.

First of all, Applicant submits that it is improper to reject such claims under 35 U.S.C. 102(b) since the date associated with the AAPA is indeterminate. As such, it is not possible for the Examiner to ascertain that AAPA particularly pre-dates the present invention by one year or more. Accordingly, Applicant submits that the rejection under 35 U.S.C. 102(b) is improper, as a matter of law.

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Amended claim 1 recites in part:

**“A pulse width modulation current adjustment apparatus,
comprising:**

**a triangle wave generator for generating a triangle wave
voltage signal;**

**wherein the triangle wave voltage signal has a plurality of
rising portions and a plurality of declining portions, and the
triangle wave voltage signal only comprises odd harmonics
such that a percentage of high frequency harmonics of the
triangle wave voltage signal is low;”**

AAPA discloses that a current adjustment apparatus comprises a sawtooth wave generator 1, a field effect transistor 3, a power supply 7 and current limiting resistors 4, 5. The sawtooth wave generator 1 generates a sawtooth wave signal, which only has a plurality of rising portions (See FIG. 5) and comprises both even harmonics and odd harmonics such that it includes a considerable percentage of high frequency harmonics (See Page 2, Paragraph [0004]). However, AAPA fails to disclose or suggest that “the triangle wave voltage signal has a plurality of rising portions and a plurality of declining portions, and the triangle wave voltage signal only comprises odd harmonics such that a percentage of high frequency harmonics of the triangle wave voltage signal is low”, as recited in amended claim 1.

Applicants further submit that the novel physical features of amended claim 1 produce new and unexpected results over AAPA. Since the sawtooth wave signal generated by the sawtooth wave generator 1 in AAPA, only has a plurality of rising portions and includes both even

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harmonics and odd harmonics (i.e., the sawtooth wave signal includes the considerable percentage of high frequency harmonics), the current adjustment apparatus in AAPA generates a pulse width modulation current signal having a considerable percentage of high frequency harmonics. Accordingly, the high frequency noise of the AAPA system is larger.

However, in amended claim 1, the triangle wave voltage signal generated by the triangle wave generator has **the plurality of rising portions and the plurality of declining portions**, and the triangle wave voltage signal **only comprises odd harmonics**, that is, the triangle wave voltage signal has a low percentage of high frequency harmonics. Therefore, the high frequency noise of the system decreases, and the stability of the output current from pulse width modulation current adjustment apparatus defined in amended claim 1, is higher.

Accordingly, amended claim 1 is submitted to be novel, nonobvious, and patentable over AAPA, taken alone or in combination with any other cited reference, under both 35 U.S.C. 102(b) and 35 U.S.C. 103. Reconsideration and withdrawal of the rejection and allowance of amended claim 1 are respectfully requested.

Amended claim 2 depends from amended claim 1. Therefore, Applicant submits that amended claim 2 is also novel, unobvious, and patentable over AAPA under both 35 U.S.C. 102(e) and 35 U.S.C. 103.

Amended claim 7 is a method of making a pulse width modulation current signal and has been particularly amended to essentially include the patentable elements discussed above with respect to amended claim 1. Accordingly, for reasons similar to those asserted above in relation to

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amended claim 1, Applicant submits that amended claim 7 is novel, unobvious, and patentable over AAPA, taken alone or in combination with any other cited reference, under both 35 U.S.C. 102(b) and 35 U.S.C. 103.

Amended claim 8 is a triangle wave generator used in a pulse width modulation current adjustment apparatus and also has been amended to essentially include the patentable elements discussed above with respect to amended claim 1. Thus, for reasons similar to those asserted above in relation to amended claim 1, Applicant submits that amended claim 8 is novel, unobvious and patentable over AAPA, taken alone or in combination with any other cited reference, under both 35 U.S.C. 102(b) and 35 U.S.C. 103.

35 USC §103 Rejections

Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Figure 4 of AAPA.

Amended claims 3-6 should be allowable as being directly or indirectly dependent on independent claim 1, which is allowable for the reasons set forth above. Accordingly, claims 3-6 are submitted to be unobvious and patentable over AAPA, taken alone or in combination with any other cited reference, under 35 U.S.C. 103(a).

Claims 1 and 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haas (US 3,621,282).

Haas discloses a sawtooth generator for generating a linear voltage ramp (See column 2, lines 70-74; and FIGS. 1-2). However, in amended claim 1, the pulse width modulation current adjustment apparatus outputs

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a pulse width modulation **current** signal. As such, Haas fails to teach or suggest each and every element of amended claim 1.

Furthermore, Haas fails to disclose or suggest that "the triangle wave voltage signal has a plurality of rising portions and a plurality of declining portions, and the triangle wave voltage signal only comprises odd harmonics such that a percentage of high frequency harmonics of the triangle wave voltage signal is low", as recited in amended claim 1.

Accordingly, claims 1 is submitted to be unobvious and patentable over Haas under 35 U.S.C. 103(a).

Amended claims 3-6 should be allowable as being directly or indirectly dependent on independent claim 1, which is allowable for the reasons set forth above. Accordingly, claims 3-6 are submitted to be unobvious and patentable over Haas, whether taken alone or in combination with any other cited reference, under 35 U.S.C. 103(a).

Amended claim 7 is similar to claim 1. For reasons similar to those asserted above in relation to amended claim 1, Applicant submits that amended claim 7 is unobvious and patentable over Haas, whether taken alone or in combination with any other cited reference, under 35 U.S.C. 103(a).

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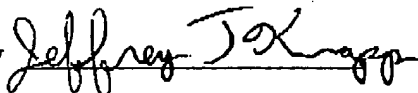
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Conclusion

Therefore, all of the objections and rejections are believed to be overcome, and withdrawal of such is respectfully requested.

In view of the foregoing, the present application as claimed in the pending claims is considered to be in a condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,
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